

## **I. Amendments to the Claims**

This listing of claims replaces without prejudice all prior versions and listings of claims in the application:

### **Listing of Claims:**

Claims 1-15 (Cancelled)

16. (Original) A process for reducing the level of a chemical compound in a fluid, the process comprising the steps of:

feeding the fluid to a fluid treatment device comprising a fluid inlet; a fluid outlet and a flow-through fluid treatment zone disposed between the fluid inlet and the fluid outlet, the fluid treatment device comprising: a radiation source, an adsorbent and a photocatalyst;

feeding the fluid in a first mode in which the fluid flows in a first direction and at least a portion of the chemical compound is adsorbed on the adsorbent; and

feeding the fluid in a second mode in which the fluid flows in a second direction different from the first

direction in which the adsorbed chemical compound is exposed to radiation from the radiation resulting in photooxidation of the chemical compound.

17. (Original) The process defined in claim 16, wherein, in the first mode, the adsorbent is utilized as fixed bed.

18. (Original) The process defined in claim 16, wherein, in the second mode, the photocatalyst comprises a fluidized bed.

19. (Original) The process defined in claim 16, wherein the photocatalyst comprises  $\text{TiO}_2$ .

20. (Original) The process defined in claim 16, wherein the adsorbent comprises a zeolite.

21. (Original) The process defined in claim 16, wherein the adsorbent and the photocatalyst are comprised in the same particulate material.

22. (Original) The process defined in claim 16, wherein the radiation source comprises an ultraviolet radiation source.

23. (Original) The process defined in claim 16, wherein the fluid comprises water.

24. (Original) The process defined in claim 16, wherein the first direction and the second direction are substantially opposed to one another.

25. (Original) The process defined in claim 16, wherein the radiation source is operable only in the second mode.

26. (Original) The process defined in claim 16, wherein the chemical compound is organic.

27. (Original) The process defined in claim 16, wherein the chemical compound is inorganic.

28. (Original) The fluid treatment device defined in claim 16, comprising the additional step of switching

from the first mode to the second mode when a predetermined amount of the chemical compound has been adsorbed on the adsorbent.

29. (Original) The fluid treatment device defined in claim 16, comprising the additional step of switching from the second mode to the first mode when a predetermined amount of the chemical compound has been photocatalyzed.